The following table shows the sort of way in which the sun treatment is begun and developed :

First day: Ten minutes on feet to ankles.
Second day: Ten minutes on legs to the knees and twenty minutes on feet to ankles.
Third day: Ten minutes on legs to the hips and twenty minutes on feet and legs to knee.
Fourth day: Ten minutes on back of legs to the hips and twenty minutes on the front of legs.
Fifth day: Ten minutes on the lower trunk and fifteen minutes each back and front of legs.
Sixth day: Increase a little the exposure of the trunk for ten minutes and twenty minutes each back and front of legs.
Seventh day: Ten minutes' exposure of the back and the rest of the body as for the sixth day.
Succeeding days: Increase gradually the amount and length of times of exposure until the whole trunk, except the head and neck, is exposed for about two and a half hours' total time.

Before deciding on any particular climate for a patient two factors must be carefully considered: the demand for tissue change made by the climate and the individual patient's power of responding to this demand. A young robust person with sound digestion, heart, etc., and with much reactive power and resistance, needs a wholly different type of climate from the elderly and feeble patient, with poor digestion, indifferent kidneys, and weak circulation. These are two extreme types, but I wish to urge the great importance of considering these points before recommending a climate, whether at a high altitude or otherwise, for any particular case. In mountain climates, where there is a demand for an increased and higher rate of metabolism, people who do best are naturally those able to respond and react to this increased call upon the constitution. Thus it is that the early cases in young and middle-aged people are those which do best in the mountains; and next in order comes the more advanced or partially arrested case, where, however, the general constitution is still good and the patient can respond satisfactorily to the demands of the mountains. The second group often derive great benefit from the extra stimulation and "flip," caused by the climatic conditions of a mountain resort.

Another important point to be thought of is the mental side of the question; patients who have to lead the sedentary quiet life necessary to the treatment of this unhappy disease will be more cheerful and in better spirits in the bright sun and clear blue skies of an Alpine climate, especially in the winter months, than in the average weather conditions prevailing at that period in our own island.

ELEVEN THOUSAND CASES OF SPINAL ANALGESIA.

BY

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DURING the past ten years I have performed 11,000 surgical operations under stavaine spinal anaesthesia. As this is probably as large a number as any individual British surgeon has done, I desire briefly to place on record my experiences. The methods which I now employ represent an evolution which gradually, during the past three or four years, crystallized itself into the following procedure:

I use a platinum needle about $2\frac{1}{2}$ inches long, and not much stouter than an ordinary hypodermic needle. I prefer the patient seated, with the back arched, on the operating table, when that position is possible. I select whatever intervertebral space is indicated, and insert the needle in the middle line immediately above the lower spinous process of the space. Generally one feels and hears the penetration of the membranes, and the cerebro-spinal liquid should flow in a jet, or at least in rapid drops. I remove a quantity of fluid equal to the volume of the solution to be injected.

The solution used is made up in ampoules (furnished by the Maison Clin of Paris), containing about $7\frac{1}{2}$ c.cm.; to that I add an ampoule containing $\frac{1}{2}$ mm. or 1 mm. of strychnine. The full dose of $7\frac{1}{2}$ c.cm. suffices for a prolonged operation (such as a double hernia, a double hydrocele, with, perhaps, a ventral hernia in addition). That dose produces complete insensibility for at least one hour, and no operation should last longer than that.

I find that this method is employed by me in 97 per cent. of all operations performed. The exceptions are made up of operations on the head and neck, for which spinal analgesia is neither easy nor efficient. Many opera-

tions on the head and neck are done under local anaesthesia, and a very small minority under chloroform or ether. Spinal analgesia I use for all abdominal operations—hysterectomy, ovariectomy, appendectomy, nephrectomy, splenectomy, liver abscess—and for thoracic operations, such as empyema, thoracostomy, necrosis of ribs or clavicle.

With regard to dosage the following figures may be taken as a rough guide; at the same time, old or feeble patients should have a little less, and children of, say, 5 or 6 years about one-third of the dose (with upward gradation according to age): Hernia (double), $7\frac{1}{2}$ to 7 c.cm.; abdominal and thoracic operations, 7 c.cm.; hydrocele, $6\frac{1}{2}$ c.cm.; bladder (tumours, stones), 6 c.cm.; leg (amputations, fracture setting), 6 c.cm.; rectum (haemorrhoids, fistula), 5 c.cm. Let me here say that if indications of an overdose are manifest, such as pallor, anxiety, nausea, the best treatment is 2 tablespoonfuls of brandy by the mouth and 20 cg. of camphor oil by the skin, with artificial respiration in extreme cases.

Advantages.

1. Rapidity. By the time that the patient's skin has been painted with iodine and the surgeon has put on his gloves—say, three minutes—the patient is ready.
2. No anaesthetist is necessary. For those 11,000 operations I have been my own anaesthetist.
3. Relaxation of the parts. A surgeon who relies on a general anaesthetic has no conception of the facility and simplification of procedure wherewith a splenectomy, a nephrectomy, a hernia, or even a haemorrhoids operation can be performed under spinal analgesia.
4. Absence of vomiting and of shock. Frequently a patient returned to the ward after a nephrectomy will smoke a cigarette immediately.
5. Safety from serious sequelae. In septic operations, such as gangrenous or purulent appendicitis, and in septic wounds necessitating intervention, a general anaesthetic gives rise to acetone and other forms of fatal poisoning, to heart failure, and often, I am sure, to endocarditis with dangers immediate and remote. I desire to emphasize this, for they are factors of the most serious import often unconsidered and denied by surgeons.

Disadvantages.

I know of only one real disadvantage, and that is persistent headache. I have been unable to eliminate entirely that drawback. At the same time it occurs chiefly after minor operations, such as haemorrhoids and uterine curettage, and is largely due to the fact that the patients will sit up and jump about in bed. If they will rest quietly in the recumbent position, not only is there assured absence of real headache, but the rapid and complete success of all operations is thereby enhanced.

Let me state the fancied objections in order to refute them. One is told of the horror of being awake while an operation is going on. I have never found any one worry about that during the operation. Occasionally a patient will raise objections which, as afterwards confessed, were inspired by a medical man ignorant of the technique of the procedure. Among my patients Europeans of every nationality and, above all, native Egyptians clamour for its use.

The method of spinal anaesthesia, like the administration of all anaesthetics, has to be learned; failures of all kinds diminish as experience increases. Chloroform can always be administered if the stavaine should fail. But failures will be few. In remote districts especially, it is of priceless value. With its aid I should not hesitate to remove a gangrenous appendix and so save a life, even had I no one to help me except an intelligent nurse.

In conclusion, I should be indeed ungrateful if I did not acknowledge the great help, in counsel and in deed, that I have received in strenuous hospital labours from my principal assistant and colleague, Dr. Iatrou, and from past assistants in Dr. Schlesinger and Dr. Kaim.

DURING the period 1913-1916 tuberculosis in Germany increased by 26.2 per 100,000 inhabitants in the urban population and by 16.2 in the rural population; in 1916-17 by 62.6 and 31.9 respectively; in 1917-18 by 32.7 and 16.6, and in 1918-19 by 14 and 16.1 respectively. The highest mortality was between the ages 15 and 30, then between 30 and 60, and lowest between 1 and 15.